

REMARKS

In the Office Action, claim 1 has been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent 4,206,671 (Hoehn) in view of U.S. Patent 3,521,688 (Urschel et al.). Applicants respectfully traverse this rejection on the basis that Hoehn and Urschel et al., whether considered individually or collectively, do not disclose, suggest or teach all of the claim limitations of an impeller for a rotary food product slicing machine as recited in claim 1 of the present invention. Applicants further submit that the proposed modification of combining the impeller of Hoehn with the impeller described in Urschel et al. would render the impeller of Hoehn unsatisfactory for its intended purpose and change the principle of operation. Accordingly, Applicants maintain that the Examiner has failed to establish prima facie obviousness of the claimed invention. Applicants will address each of these points in the following discussion.

As shown in FIGS. 3 and 6, Hoehn discloses an impeller assembly for assembly in a drum that includes impeller blades each having a rectangular first portion extending radially from a central shaft of the impeller, and a second portion extending from the first portion in a curved relationship in the direction of rotation of the impeller assembly. The first portion is expressly described as having a first bottom side affixed to the central shaft (col. 6, lines 46-61). The second portion extends forward and narrows to form a third finger portion that is always adjacent the interior surface of the drum so as to curve nearly circumferentially in the direction of rotation of the impeller assembly (col. 7, lines 5-22). The finger portions serve as a scooping function as they contact vegetable products as they enter the drum (col. 7, lines 23-31).

Having made these observations on Hoehn, it is readily apparent that the impeller assembly of Hoehn is distinctly different than the impeller of the present invention.

First, Hoehn fails to disclose or suggest the paddles of the impeller of the present invention. As noted above, the first portion of the impeller blade in Hoehn is affixed to and radially extends from the central shaft, whereas the second portion of the impeller blade has a curved edge extending from the first portion and generally from the central shaft. On the other hand, the paddles of the present invention are recited as having radially outer axially extending edges and radially inner axially extending edges. It follows that the first portion of the impeller blade in Hoehn cannot be construed to have inner edges since such inner edges are inherently mounted onto the central shaft, and the second portion of the impeller blade cannot be interpreted to have either axially extending inner or outer edges since the edges are curved.

It should be pointed out that the paddles in the present invention are recited as spanning the radial surfaces of the base plate and at least one ring, and further being oriented so as to extend at an angle relative to the radius of the rear base plate and the outer ring so that the inner edges are in a trailing relationship relative with the outer edges of the paddles. In contradistinction, as shown in FIG. 6, the first portion of the impeller blade in Hoehn is described as radially extending (therefore perpendicularly) from the central shaft and thus, cannot be construed to have edges arranged in a trailing relationship. Furthermore, while the second portion of the blade has a curved profile which extends along the central shaft, the curved profile inherently extends at a plurality of angles from the central shaft and thus, does not extend at an angle. Accordingly, neither the first portion nor the second portion of the impeller blade in Hoehn is arranged as a paddle arranged to span a base plate and a ring and includes outer and inner edges arranged in a trailing relationship.

In summary, Hoehn simply does not disclose, suggest or teach paddles having axially extending outer and inner edges positioned in the above-described trailing relationship such that the end of each paddles located adjacent the rear base plate is located in at least a trailing relationship relative to the end of each paddle located against an outer ring with respect to an intended direction of rotation of the impeller.

As specifically indicated in the present application, the paddle arrangement of the present invention has the advantage over Hoehn in that the impeller assembly of Hoehn requires a drum having a substantially large diameter and depth in order to accommodate the curved impeller blade profile and the central shaft (page 5, lines 3-14). Furthermore, as clearly shown in FIG. 6 of Hoehn, the impeller assembly is limited as to the amount of impeller blades it can include due to the space requirements of the curved blades. On the other hand, FIGS. 5-7 of the present application show how the impeller of the present invention can advantageously accommodate substantially more paddles than the impeller blades of Hoehn, while generally performing the same function.

It should be pointed out that the impeller blades themselves of Hoehn are expressly described as insufficiently registering a food product against the back plate, as evidenced by the alternate embodiments such as the inclusion of baffles described in col. 5, line 49 through col. 6, lines 29, and also does not effectively hold the food product in position against the drum, as evidenced by the plurality of grooves formed on the interior surface of the drum (col. 5, lines 40-45). Of note, Hoehn indicates that the alternate embodiments are provided to curtail the bouncing of potatoes off the backplate which apparently is a problem with the propeller blades of Hoehn. On the other hand, the paddle configuration of the present invention is advantageous over the impeller assembly in Hoehn in that it purposefully axially aligns food products along the paddles and urges the food products to register against the back plate without bouncing potatoes against the back plate.

While in the Office Action it has been proposed that the impeller assembly of Hoehn could be combined with a forward annular ring such as the opposite wall 191 of the impeller in Urschel et al., Applicants submit that one skilled in the art would not be motivated to include the opposite wall in Urschel et al. in connection with the impeller assembly of Hoehn. Specifically, there is simply no suggestion or teaching in Hoehn

that would tend to motivate one skilled in the art include the opposite wall 191 in Urschel et al. to increase the structural rigidity of the impeller assembly in Hoehn.

While the Examiner has indicated that Urschel et al. teaches the use of the opposite wall to improve the structural integrity of the impeller described therein, such a wall is necessary in the particular impeller embodiment of Urschel et al. Specifically, the opposite wall and the inner end wall 163 provide the only support for the vanes 193 extending therebetween. If the impeller in Urschel et al. lacked the opposite wall, the vanes 193 would not have any support at their forward ends and the impeller would likely lack sufficient rigidity to carry food products contained therein to a blade assembly.

On the other hand, the impeller blades in Hoehn are connected along the length of the central shaft and to the backing plate 74. Accordingly, due to the central shaft, the impeller blades generally have sufficient structural integrity along their length. There is no suggestion in Hoehn which indicates the need for additional support at the forward end of the impeller assembly.

Hoehn tends to teach away from the idea of providing an impeller with a forward annular ring. Specifically, as noted above, Hoehn describes that at the end of the impeller blade portion positioned near the open end of the drum are fingers that are described as curving nearly circumferentially in the direction of the rotation of the impeller assembly (col. 7, lines 14-22) and which serve a scooping function to guide food products into the drum (col. 7, lines 26-28). It would appear to defeat the purpose of the fingers, and therefore go contrary to the teachings of Hoehn, to provide a forward annular ring connected to the fingers. This is due to the fact that a forward annular ring mounted onto the fingers would interfere with their intended function of scooping food products into the drum.

Accordingly, Applicants submit that Hoehn and Urschel et al., whether considered independently or collectively, do not disclose, suggest or teach the present

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invention. Therefore, claim 1 of the present invention is fully patentably distinguishable over the combination of Hoehn and Urschel et al. Withdrawal of the rejection is respectfully requested.

In view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that claim 1 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicants' Attorney, the Examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Justin J. CasSELL", with a stylized, cursive script.

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